

JATC2 Task 7.4 / Information sheet 4:

Use, perceptions and attractiveness of electronic cigarettes and heated tobacco products

Use of electronic cigarettes and heated tobacco products in Europe

The scientific literature is indicative of an increasing use of both electronic cigarettes (e-cigarettes) and heated tobacco products (HTP) in Europe. Almost half of the users reported daily consumption of these products.

To assess the prevalence of e-cigarette and HTP use in European countries, we have considered data from scientific literature and from the Eurobarometer (2021). In many cases, the most recent and complete data are only available at country level from national official sources. This data is often not translated or published in international scientific sources and could therefore not be included in our review. In light of this and considering the growing trend, our results on prevalence of use should be considered conservative estimates.

Eurobarometer data indicated that the percentage of the general European adult population who have at least tried e-cigarettes increased to 14% in 2021, with major differences across countries. The prevalence of those having tried e-cigarettes ranged from less than 10% in Poland (6%), Malta (7%), Portugal (7%), Romania (7%) and Hungary (9%) to more than 20% in the United Kingdom (22%), France (22%), Estonia (25%), and Ireland (29%). The prevalence of current use was highest in France (6%) and Ireland (7%).

The prevalence of current HTP use in the adult population is time- and country-dependent in relation to the year of introduction in local markets. We observed a sharp increase in use among adults in Italy, where current HTP use increased from 0.0% in 2017 to 4.5% in 2020. The limited data available in the scientific literature so far from other European countries suggest that similar increasing trends are possible in selected other countries.

Among the current European e-cigarette users, nearly half (48%) reported daily use of e-cigarettes with nicotine, and among HTP users a similar proportion (46%) reported daily use of the product.

Data on use and patterns of use of e-cigarettes and HTPs in Europe remain limited, when we consider the scientific literature on the topic. There is a need to support more independent studies to monitor e-cigarette and HTP use in Europe.

Use of electronic cigarettes and heated tobacco products among teenagers and young adults

Young individuals experiment with these products, leading to nicotine addiction. It is important to safeguard the most vulnerable groups, especially adolescents and young adults, from the health risks, including addiction, associated with e-cigarettes and HTPs.

Adolescents and young adults are more prone to use and experiment with e-cigarettes and HTPs. This is concerning because these products are often highly addictive and can be a gateway to conventional cigarette smoking. Several studies have highlighted dual and poly-use as the dominant pattern of e-cigarette and HTP use among young people.



Exposure to e-cigarette and HTP advertising consistently increases intentions to use. Moreover, several advertising campaigns and social media sponsorships are clearly not targeted at cigarette smokers who intend to quit, but at young non-smokers. The technological components, the appealing aesthetics (e.g., design, shapes, colors) and the variety of flavors of these products attract a younger generation, including minors.

Although the sale of these products to minors is prohibited in all EU countries, our findings indicate that access to these products is widespread among children and adolescents aged less than 18 years. Accordingly, some studies showed that in several European countries, most adolescents aged 13-15 years have at least tried e-cigarettes.

We recommend implementation and enforcement of measures that effectively deny children and adolescents aged less than 18 years access to all nicotine-containing products, including conventional cigarettes, HTPs and e-cigarettes. These measures should include reducing the number of points of sale, increasing the price of these products, and strict enforcement of age restrictions. In addition, we recommend imposing tighter restrictions on the appearance and content of these products in order minimize their appeal to youth, for example by introducing flavor bans, plain packaging and health warnings. Finally, we support a comprehensive ban on all advertising - including on social media - of these products, to further reduce their appeal to young people and children. Measures that prevent access to and reduce attractiveness of nicotine and tobacco products should go together with efforts to educate children and parents about their health risks.

Dual and poly-use

Both e-cigarettes and HTPs exhibit close associations with dual and poly-use of conventional cigarettes and other tobacco products. E-cigarettes and HTPs should be regulated more strictly to avoid their use as a compensatory measure for smoking in settings where conventional cigarettes are banned.

Among current European e-cigarette users, nearly 60% are dual users, while among HTP users more than two thirds are dual users (67.4%). Among adolescents and young adults, several studies confirmed the high prevalence of poly-tobacco product use.

Both e-cigarette and HTP use are more frequent among current smokers than among non-smokers. This result strengthens the hypothesis that smokers use e-cigarettes and HTPs as substitutes in places where conventional tobacco smoking is banned. Indeed, growing evidence shows that most dual users use e-cigarettes and HTPs in settings where conventional cigarettes are forbidden, including workplaces. This hinders the regulatory aim of smoking bans, which is to prevent exposure to second-hand aerosols, which have been proven to be harmful for human health. Therefore, it is necessary to develop comprehensive bans or update current bans to include all nicotine and tobacco products.

Implementing stricter regulations to limit the use of e-cigarettes and HTPs in public places is urgent, to reduce nicotine consumption by users and to protect non-users from exposure to second-hand aerosols.

Perceptions of harmfulness of e-cigarettes and HTPs

The perception of harm associated with e-cigarettes and HTPs varies substantially in our data, and a non-negligible portion of the population still consider these products to be harmless. Europeans, particularly users, generally consider e-cigarettes and HTPs to be less harmful than conventional tobacco cigarettes.

In terms of harmfulness and impact on health, e-cigarettes and HTPs are perceived as harmful for health by the majority of the European population (55% to 74%). Still a non-negligible minority, particularly among youth and young adults, perceived these products to be harmless, or believed that the second-hand aerosol produced by these products was not a severe health problem for nearby non-users. Educated people and those aged 55-64 years are more likely to share the opinion that e-cigarettes can be harmful for health and cause cancer.

In any case, Europeans generally perceive e-cigarettes and HTPs as the less harmful option compared to conventional tobacco cigarettes because of perceived health improvements, less severe health warnings on packages and misleading promotion by tobacco companies. The vast majority of dual users refer to “harm reduction” as the main reason for their use.

Regarding the immediate short-term effects of e-cigarettes and HTPs, there is enough scientific evidence showing the harms of their use. However, regarding long-term effects, prospective cohort studies not conducted by tobacco industry or affiliated organizations are needed.

There is a need for improved health literacy and targeted communication about the health risks associated with both products. We propose the support of independent research on the health effects of e-cigarettes and HTPs. We advocate for the development and implementation of effectively targeted communication and prevention strategies, specifically tailored to engage and resonate with users and non-users, with a special emphasis directed at youth.

Trajectories of use

E-cigarettes and HTPs are perceived by some users as tobacco cessation aids. However, in real life, these products do not help smokers to quit but are a gateway to start conventional cigarette smoking for never smokers or to relapse for former smokers.

European e-cigarette and HTP users are likely to perceive these products as tobacco cessation aids, and most dual users refer to quitting smoking as the main reason for use, along with a perceived, despite unproven, reduced risk. This is particularly the case in specific non-EU countries, such as the UK, where e-cigarettes are still recommended to smokers by health care providers.

Growing evidence from longitudinal cohort studies suggests that e-cigarette and HTP users, experiencing nicotine addiction, are at greater risk of starting cigarette smoking than never users. In addition, e-cigarette and HTP use among former smokers increases the risk of relapse. Finally, the use of e-cigarette and HTP as a consumer product acts as a disincentive to quit smoking. Results from EU Member States investigations - consistent with other non-European studies - suggest that these products act as a gateway to smoking initiation or relapse. The available evidence does not support the hypothesis of e-cigarettes and HTPs as effective tools to quit conventional cigarette smoking in non-clinical settings.

Based on the current knowledge e-cigarettes and HTPs should not be considered as an effective harm reduction strategy. This message should be included in public communication about the health risks associated with e-cigarette and HTP use (also see section 4).